

In a control system for a motor-generator capable of functioning as a three-phase magnet-type synchronous motor after starting of an engine and functioning as a brushless DC motor before starting of the engine, a rotated-position detecting device is arranged to detect an induced voltage in each of three-phase coils included in the motor-generator and to detect a rotated position of a rotor based on such induced voltage. Thus, the rotated position of the rotor can be detected without use of a sensor, whereby the operation for assembling the motor-generator can be simplified.